REMARKS

The term BioOil has been indicated in an amendment to the specification as a generic term which is known in the industry as being the liquid product from the pyrolysis of agricultural and forest biomass. Thus, any trade-mark significance to BioOil has been effectively disclaimed. This product does not exist as such in nature. It contains hundreds of compounds so that a chemical structure for BioOil cannot be given.

Claims 1 and 6 have been amended to correct an incorrect statement as to reducing gas velocity and to correct the dependency problem in claim 6.

The problem in expressing the temperature of gas velocity has also been corrected by the removal of the term "reducing gas velocity".

The problem in claim 5, line 4 is merely a clerical error. The word "about" should have been –above–.

Claims 1-3,5-9,10,11,13-16,18-20,21,22 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Underwood et al taking together with Himmelblau.

Underwood discloses a pyrolysis reactor followed by three cyclone separators in series. Two condensers connected in series follow the cyclone separators. Thus, as noted by the Examiner, Underwood does not disclose a settling or gas retention section as does Applicant. Freel discloses an arrangement almost identical with that of Underwood also with no settling or gas retention section. Himmelblau discloses a series of cyclone separators followed by a coalescing vessel. It is stated in column 5, lines 32-34 as follows: "Additional oil mist removal is accomplished in low-velocity

coalescing vessel 220". Coalescence of particles refers to the joining of two or more particles to make a larger one. While coalescence can and does occur anywhere in the gas stream, a coalescence vessel has, for example, batt filters which are typically 2 inches or so thick. Low velocity gas enters the filter and the droplets get caught in the filter matrix allowing particles to merge and grow larger. Meanwhile the remaining gas travels straight on through the filter. When the merged particles get large enough they move with gravity and eventually are collected. Applicant's gas retention apparatus 18 is not a coalescence vessel, but increases retention time, thereby allowing droplets to settle out. Himmelblau's vessel 220 provides a filter where low velocity particles of gas coalesce. Hence, Himmelblau's coalescence vessel performs a different function than Applicant's gas retention apparatus.

On a more general perspective, Applicant combines three methods of separation not disclosed by the cited references, either in combination or in combination and in the same order as in Applicant's invention. These methods are hot inertial separation followed by a settling section, which increases gas retention time, followed by a condensing section. Himmelblau uses a series of cyclone separators followed by a scrubber followed by a cyclone separator and the coalescing vessel. Applicant does not have a venturi scrubber. Thus, the nature and function of treatment in Himmelblau is not the same as in Applicant's invention as claimed in claims 1 and 13 nor is the function of the coalescence vessel in Himmelblau the same as Applicant's gas retention vessel.

The fact that Applicant uses individual components some of which are found in prior patents does not render his claimed invention obvious. It is the selection and order in which these components are used that is important. Applicant arrived at an arrangement through trial and error of three simple sections which succeeded in removing the aerosol and liquid droplets from the gas stream that would otherwise foul and contaminate downstream equipment such as electrostatic precipitators.

Considering the above-mentioned amendments and comments, Applicant respectfully solicits re-consideration of the subject application.

Respectfully submitted

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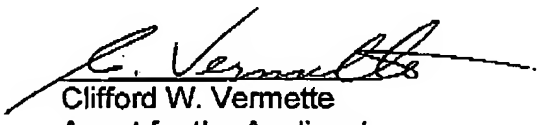

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